IN THE CLAIMS

No claims have been amended, added, or canceled.

1. (Previously Presented) A method for use in forming a read sensor for a magnetic head, comprising:

forming a chemical-mechanical polishing (CMP) protective layer over a plurality of read sensor layers;

forming a first photoresist structure in a central region over the read sensor layers;

performing a reactive ion etching (RIE) to remove end portions of the CMP protective layer in end regions which surround the central region without removing any of the read sensor layers, to thereby leave intact both a central protective portion of the CMP protective layer underneath the first photoresist structure and the read sensor layers;

after performing the RIE and leaving the read sensor layers intact, performing an ion milling of the read sensor layers such that end portions of the read sensor layers are removed in the end regions and a central sensor portion remains underneath the first photoresist structure, to thereby define a stripe height for the read sensor;

forming an insulator layer around the read sensor where the end portions were removed;

removing the first photoresist structure through mechanical interaction with a CMP pad by compressing the first photoresist structure with the CMP pad until it reaches a top surface of the CMP protective layer, which provides a suitable physical barrier to protect the read sensor layers from the CMP pad;

forming a second photoresist structure in a central region over the read sensor layers; and

etching the read sensor layers such that the end portions of the read sensor layers are removed and a central portion remains underneath the second photoresist structure, to thereby define a trackwidth for the read sensor.

2. (Previously Presented) The method of claim 1, wherein the first photoresist structure is formed without an undercut.

3. (Canceled)

4. (Previously Presented) The method of claim 1, further comprising:

depositing hard bias and lead layers around the read sensor; and

removing the second photoresist structure through mechanical interaction with a CMP pad.

5. (Canceled)

6. (Previously Presented) The method of claim 1, wherein the act of removing the first photoresist structure comprises mechanically compressing the first photoresist structure with the CMP pad.

7. (Canceled)

8. (Previously Presented) The method of claim 1, wherein the CMP protective layer comprises a first CMP protective layer and the method further comprising:

prior to removing the first photoresist structure, forming a second CMP protective layer over materials which surround the read sensor layers; and

wherein the materials comprise insulator materials.

9. (Previously Presented) The method of claim 1, further comprising:

prior to removing the first photoresist structure, forming a second CMP protective layer over materials which surround the read sensor layers to a thickness of between about 100 – 200 Angstroms.

10. (Previously Presented) The method of claim 1, wherein the CMP protective layer comprises a first CMP protective layer and the method further comprising:

prior to removing the first photoresist structure, forming a second CMP protective layer over materials which surround the read sensor layers; and

wherein the first and the second CMP protective layers comprise carbon.

11. (Previously Presented) The method of claim 1, further comprising:

removing the central CMP protective portion by RIE prior to forming the second photoresist structure.

12. (Previously Presented) A method for use in making a read sensor for a magnetic head, comprising:

defining a stripe height for the read sensor by:

forming a first chemical-mechanical polishing (CMP) protective layer over a plurality of read sensor layers;

forming a first photoresist structure in a central region over the read sensor layers;

performing a reactive ion etching (RIE) to remove end portions of the first CMP protective layer in end regions which surround the central region without removing any of the read sensor layers, to thereby leave intact both a central protective portion of the first CMP protective layer underneath the first photoresist structure and the read sensor layers;

after the performing of the RIE and leaving the read sensor layers intact, performing an ion milling of the read sensor layers such that end portions of the read sensor layers are removed and a central sensor portion remains underneath the first photoresist structure;

forming a second CMP protective layer around the central protective portion;

removing the first photoresist structure through mechanical interaction with a CMP pad by compressing the first photoresist structure with the CMP pad until it reaches top surfaces of the first and the second CMP protective layers, which provide a suitable physical barrier to protect the read sensor layers from the CMP pad;

subsequently defining a trackwidth for the read sensor by:

forming a second photoresist structure in a central region over the read sensor layers;

etching the read sensor layers such that end portions of the read sensor layers are removed and a central portion remains underneath the second photoresist structure; and

removing the second photoresist structure through mechanical interaction with a CMP pad.

13. (Previously Presented) The method of claim 12, further comprising:

after etching the read sensor layers with use of the first photoresist structure, forming an insulator layer around the read sensor where the end portions were removed, which is protected by the second CMP protective layer from the CMP pad when the first photoresist structure is removed.

14. (Previously Presented) The method of claim 12, further comprising:

after etching the read sensor layers with use of the first photoresist structure, forming an insulator layer around the read sensor where the end portions were removed, which is protected by the second CMP protective layer from the CMP pad when the first photoresist structure is removed; and

after etching the read sensor layers with use of the second photoresist structure, forming hard bias and lead layers around the read sensor where the end portions were removed.

15. (Previously Presented) The method of claim 12, wherein the first and the second photoresist structures are formed without undercuts.

16. (Previously Presented) The method of claim 12, wherein the act of removing the first photoresist structure comprises mechanically compressing the first photoresist structure with the CMP pad.

17. (Canceled)

18. (Previously Presented) The method of claim 12, wherein the first and the second CMP protective layers comprise carbon.

19. (Canceled)

20. (Canceled)

21. (Previously Presented) The method of claim 12, wherein the first and the second CMP protective layers comprise carbon having a hardness of about 22 GPa.

22. (Previously Presented) The method of claim 12, wherein the first and the second photoresist structures are formed without undercuts and the method further comprises:

exposing the second photoresist structure to a solvent prior to removing the second photoresist structure.

23. (Previously Presented) A method of forming a read sensor of a magnetic head, comprising:

forming a photoresist without undercuts in a central region over a plurality of read sensor layers which have a chemical-mechanical polishing (CMP) protective layer formed thereover;

reactive ion etching (RIE) to remove end portions of the CMP protective layer in end regions which surround the central region without removing the read sensor layers, to thereby leave intact both a central protective portion of the CMP protective layer underneath the first photoresist structure and the read sensor layers;

after the RIE, ion milling the read sensor layers such that end portions of the read sensor layers are removed in the end regions and a central sensor portion remains underneath the photoresist, to thereby define a stripe height for the read sensor;

forming an insulator layer around the read sensor where the end portions were removed;

forming a second CMP protective layer around the central CMP protective portion; and

removing the photoresist through mechanical interaction with a CMP pad, where the read sensor and the insulator layer are protected by the central CMP protective portion and the second CMP protective layer from the mechanical interaction with the CMP pad.

24. (Previously Presented) The method of claim 23, wherein the photoresist comprises a first photoresist and the method further comprises:

after defining the stripe height for the read sensor:

forming a second photoresist without undercuts in a central region over the read sensor layers; and

etching the read sensor layers such that end portions of the read sensor layers are removed and a central portion remains underneath the second photoresist, to thereby define a trackwidth for the read sensor.

25. (Previously Presented) The method of claim 23, wherein the photoresist comprises a first photoresist and the method further comprises:

after defining the stripe height for the read sensor:

forming a second photoresist without undercuts in a central region over the read sensor layers;

etching the read sensor layers such that end portions of the read sensor layers are removed and a central portion remains underneath the second photoresist, to thereby define a trackwidth for the read sensor; and

removing the second photoresist through mechanical interaction with a CMP pad.

26. (Previously Presented) The method of claim 23, wherein the first and the second CMP protective layers comprise carbon.

27. (Previously Presented) The method of claim 23, wherein the first and the second CMP protective layers comprise carbon having a hardness of about 22 GPa.

28. (Previously Presented) The method of claim 23, wherein the first and the second CMP protective layers are formed to a thickness of between about 100 – 200 Angstroms.

29. (Previously Presented) The method of claim 23, wherein the first and the second CMP protective layers are formed over the read sensor layers.

30. (Previously Presented) The method of claim 23, further comprising:

removing the central CMP protective portion and the second CMP protective layer by RIE.